of moderate length. Brownish black, each scale with the margin lighter; back with two or three yellowish blotches: the first, at the origin of the spinous dorsal, is sometimes absent; the second at the origin of the soft dorsal, and the third on the back of the caudal peduncle. Dorsal fins coloured as the body underneath; caudal nearly uniform white. Pectoral rays variegated with black.

Three examples, the largest 2½ inches long, are in the collection.

XXXV.—*Notes on the Remains of some Reptiles and Fishes from the Shales of the Northumberland Coal-field.* By Albany Hancock, F.L.S., and Thomas Atthey*.

The coal-shales of the Low-Main seam at Newsham and Cramlington, near Newcastle-upon-Tyne, so prolific in fish-remains, have also yielded some very interesting reptilian fossils, the largest and most important of which are the posterior and upper portions of two crania that are undoubtedly Labyrinthodont. These are apparently closely related to *Loxomma Allmanni* described by Prof. Huxley in the Proc. Geol. Soc. vol. xviii. p. 291 (1862), though apparently generically distinct from that form. Two sets of sternal plates have also been found in the same locality, as well as several ribs, a few vertebræ, two of which have the neural arch complete and most of the processes attached. Several premaxillaries and three or four portions of mandibular bones, with the teeth attached, have also occurred. All these most probably belong to the same large Labyrinthodont Amphibian.

Besides the above interesting remains, an almost entire individual of a new species of *Ophiderpeton*, Huxley, has occurred, as well as several other fragmentary reptilian fossils. And what we now propose is to give in the following pages more or less detailed descriptions of all these, and likewise of some fish-remains that have been found in the same locality.

Pteroplax cornuta, nobis.

The two cranial fragments of the reptile designated as above are each composed of the two quadrate supra-occipitals, the two parietals, portions of the elongated frontals, the post-frontals, and the epiotic bones, all of which are firmly united into one great pyriform shield by well-knit serrated sutures, which can be traced with sufficient accuracy. This shield corresponds very well in form to the central portion of the fragmentary skull figured in the paper already referred to, by Prof. Huxley; but in the new form it is less angulated. The frontals, too, appear to be longer, though their anterior extremities are broken away; the post-frontals are arcuated in the same manner, but not to the same degree, forming the inner posterior boundary of the large orbits, and their connexions with the parietals and frontals are similar. The parietals widen backwards; and the foramen, which is situated in the line of the median suture, where there is an elongated eminence, is a little behind their centre, and is slightly lengthened in the antero-posterior direction. In the larger specimen it is one-fourth of an inch in length, in the other it is a little shorter. The occipital margin is concave, the epiotic bones projecting boldly backwards, and each terminating in a slightly arched, pointed, diverging horn or spine, about an inch long. In neither specimen are these horns (which are very similar to the "postero-internal cornua" of *Keraterpeton**) perfect; but in the smaller individual the upper surface only is wanting.

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* Read at a Meeting of the Nat. Hist. Soc. of Newcastle-upon-Tyne and Tyneside Nat. Field Club, March 12, 1868.

The external surface of the cranial shield is strongly sculptured in the usual manner observed in Labyrinthodonts; that is, it is covered with anastomosing ridges separating pits and grooves; but this peculiar ornament is not equally distributed: it radiates from the centre of the shield, where it is almost obliterated, and is strongest at the margins. Here the pits and grooves are deep and strongly defined. A rather wide rounded groove extends along the outer margin of the frontals, resembling the mucus-grooves of the Labyrinthodonts.

The larger of these shields is seven inches long, including the posterior horns, and three and three-quarters inches wide. The other is six and one-quarter inches in length, and nearly three inches wide at the broadest part. Prof. Huxley estimates the width of the skull of *Loxomma Allmanni*, including the lateral portions, which are entirely wanting in our specimens of *Pteroplax cornuta*, at ten and three-quarters inches; and as it appears that the central portion, or that which corresponds to the cranial shields above described, is about one-third the entire width, we are enabled to form an approximate estimate of the width of the skull of the new form, on the assumption that it had similar lateral cranial expansions. On this basis our new Labyrinthodont must have had a skull eleven and a quarter inches wide at the posterior or widest part; and, following up Prof. Huxley's estimate, it could not be less than fifteen inches in length. If the body, therefore, was only seven times the length of the cranium, which is about the proportion of these parts in *Keraterpeton Galvani*, a comparatively short species, then *Pteroplax* must have been eight or nine feet long.

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* Trans. Royal Irish Academy, vol. xxiv., Science, p. 351, pl. 19.

This new genus, though it seems, as above stated, to be nearly related to *Loxomma*, resembles not a little, in the general form of the skull, as far as it can be determined, *Dasyceps Bucklandi*[*]. The concavity of the occipital margin and the two lateral cornua are very similar in both species; but in the latter these processes or horns are more robust, and do not look so spine-like as in *Pteroplax cornuta*. The proportions and forms of the component bones, too, are very different; and the parietal foramen in *Dasyceps* is much nearer the occipital margin, as are also the orbits, which are likewise very much smaller. The resemblance, also, of these cranial bones to those of *Keraterpeton* cannot be overlooked, so far as they can be compared. The general form of the crown of the head, with the narrow projecting frontals and concave occipital margin, together with the "postero-internal cornua," are all remarkably alike in the two forms; but, from the deficiency of surface-sculpture in that animal, and its comparative smallnes, it would seem that they cannot be considered congeneric.

Four left premaxillaries have been obtained; and all of them have a portion of the nasal bone attached, as well as several teeth more or less perfect. The premaxillary is about two and a half inches long, and upwards of half an inch wide; it is arched most strongly towards the anterior symphysis, which is oblique and coextensive with the width of the bone; behind, it is prolonged, the articular portion being wedge-shaped; the surface is strongly sculptured into elevated anastomosing ridges and depressions; and they all exhibit two strong, wide, round grooves on the external surface, one of which passes from the front, the other from behind, converging and meeting at nearly a right angle, close to the alveolar margin. These grooves are similar to what have been denominated mucus-grooves in the Labyrinthodonts, and are exceedingly like those figured and described by Prof. Owen on the muzzle of *Labyrinthodon leptognathus*[†]. And in this instance they seem to indicate the boundary of the nasal bone, which is apparently of a lozenge-form, probably somewhat prolonged backwards. Half the circumference of an external nasal orifice is distinctly perceptible in two of the specimens; it is circular, and about one-quarter of an inch in diameter: the two

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[*] Memoirs Geol. Survey, 1859, p. 52.

[†] Trans. Geol. Soc. ser. 2. vol. vi. p. 417, pl. 43. fig. 1.

must be placed considerably apart from each other, and not much in advance of the posterior margin of the nasal bone; at least it is only a short way in front of the posterior mucus-groove.

There are five or six conical teeth in each premaxillary; they are stout, grooved, and circular at the base, with the crown compressed in the direction of the length of the jaw; they are provided with wide cutting-edges, and are rather abruptly pointed. The largest are upwards of half an inch in length, allowing for their lost apices. The three anterior are much larger than the rest, and they are placed at some little distance apart, there being large depressions between them in the alveolar groove, apparently for the reception of the crowns of the mandibular teeth. The two or three posterior teeth are comparatively small, and are placed nearer together than the anterior.

Two specimens of the anterior portion of the left mandible have also occurred, the largest and best preserved of which is four inches long and about two and a quarter inches wide. The surface exhibits the same ornamentation as the other bones. The symphysial surface is perfect; it is considerably longer than the width of the ramus, being extended by a process from the inner or lower margin of the bone; there is a trace of a mucus-groove along the inferior border of the ramus. None of the teeth in these specimens are perfect; but enough is left to show that they are similar to those already described. The first tooth is small, and is placed close to the symphysis; the second is very large, and is immediately behind the first; it is half an inch in diameter at the base; a large depression, five-eighths of an inch wide, succeeds this, and then four small teeth placed close together, the two posterior of which are larger than the anterior pair; but one of them is indicated only by a mere fragment of dentine; then comes another large depression, half an inch wide, but whether or not this is for the reception of the crown of a maxillary tooth, or is the impression of the base of a tooth belonging to the mandible, it is difficult to say. Close to this depression is the base of another tooth equal in size to the large anterior one. At this point the alveolar groove is broken away; and shortly after, the fragment of the ramus terminates. The alveolar groove is distinctly defined, but widens inwardly to accommodate the bases of the large teeth, which consequently have the appearance of being placed within the smaller ones; they form, however, with the latter only a single row, and the outer borders of all are placed on the same external line. The other ramus is very imperfect; but, as far as they are traceable, the teeth have the same arrangement.

Besides the above, we have also obtained from the same locality portions of three other mandibles: one belongs to the left ramus, and is in a bad condition; two are in a good state of preservation, but, unfortunately, they both represent the same portion of the right ramus, the anterior part of each being wanting, as also the proximal extremity. They each measure about six inches in length, and widen a little backwards, where they are two and a half inches broad. If we add to the length of these fragments that of the anterior portion before described, and allow for the parts that are wanting, it would appear that the ramus could not be less than twelve or thirteen inches long. The internal cartilage having been removed, the lateral bony walls have collapsed and are inclined inwards. The jaw is consequently comparatively thin and flattened. The external surface exhibits the peculiar ornamentation in a very beautiful manner. It is the same as on the other bones, the sculpturing extending over the whole surface in the form of smooth elevated ridges composing an irregular reticulation, with the meshes or depressed spaces deep and of various forms, frequently angular, sometimes rounded, but most commonly elongated; so that the reticulated ridges, on the whole, have a somewhat dendritic appearance. This striking embossed ornament closely resembles that of *Labyrinthodon leptognathus* and *L. pachygnathus*; only it is considerably finer*. The inner surface of the bone is smooth, as well as the external border of the alveolar ridge; and there is a groove along the lower margin extending the whole length of the fragment.

The teeth exhibit very distinctly on the upper portion or crown the wide, compressed, sharp cutting-edges, and on the base the strong fluting or grooves. In several the points are quite perfect, and are decidedly lancet-shaped. The teeth are anchylosed to the bottoms of shallow pits in the not by any means deep alveolar groove.

In one of the fragments there are seven teeth; in the other, four perfect and three imperfect. In the latter the anterior tooth is a little more than half an inch long, and the others gradually diminish in size backwards, and are placed considerably apart from each other, the spaces between them being nearly three-eighths of an inch wide. In the other fragment the four most perfect teeth appear to be situated at the posterior extremity of the alveolar groove, though the jaw is continued for a considerable distance behind them. The anterior of these four is not quite half an inch long, and the others diminish gradually in size posteriorly, the last being not much more than half that length; but its extremity is not quite perfect. The three imperfect anterior teeth are very much larger than the four posterior ones; the largest of them, which is the centre one, cannot have been less than an inch in length and three-eighths of an inch wide at the base. They are all placed considerably apart from each other; but they are not quite so widely separated as those in the other fragment.

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* See Prof. Owen's paper, Trans. Geol. Soc. ser. 2. vol. vi. pls. 43, 46.

We have two other fragments of jawbones of this reptile; but they are in such an unsatisfactory condition that not much can be said about them. One of them, however, is probably a maxillary bone; it is six and a half inches long, and an inch and a half wide; but it is so imperfect that its form is not determinable, and it is much encumbered with other bones. A portion of the alveolar border is nevertheless distinctly displayed, with five close-set teeth, the largest of which is upwards of half an inch long. Other fragments of teeth are scattered about. We have also a confused mass of apparently cranial bones, which show the peculiar surface-sculpture. A portion of a jaw with a tooth or two is mixed up with these fragments.

For some time these portions of mandibles were all supposed to belong to *Rhizodus lanceiformis*, Newberry, as the teeth attached to them are undoubtedly similar to those of that reputed fish. But on considering that the sculpture of the bone-surface is exactly like that of the cranial and premaxillary bones, that the teeth of the latter are similar to those of the mandibles, and that the teeth of both exhibit precisely the same Labyrinthodont structure when examined in transverse section, the conclusion that these mandibular fragments really belong to this new Labyrinthodont is quite irresistible. The piscine nature of *R. lanceiformis* is therefore questionable. Certainly the teeth usually so designated belong to this reptile; and unless other evidence be forthcoming, this reputed species of *Rhizodus* will have to be erased from the list of Carboniferous fishes.

The two sets of sternal plates are characterized by the same surface-ornament which we have found on the other bones; and though neither of them is perfect, sufficient is preserved to enable us, by the aid of both, to form a very good idea of their shape and characters. In the finer and larger specimen, all the three plates are present, and by their position exhibit, though considerably displaced, their relation to each other. The posterior ends of the two lateral plates lie in juxtaposition, overlapping the anterior portion of the central plate, and diverging backwards; a portion only of the posterior margin of the central plate is exposed. By removing the matrix, however, from the underside in both specimens, the entire form of this plate is developed. The arrangement and general appearance of the three plates are very similar to those of *Loxomma Allmanni* figured by Prof. Huxley in the paper already referred to; only the central plate is not so much produced posteriorly and the lateral ones are much more elongated, agreeing apparently in this latter respect with *Archegosaurus*, in which Prof. Owen remarks that the lateral plates "are shaped like beetles' elytra"*. Those of *Pteroplax* certainly resemble in form elongated elytra; but, unfortunately, these plates are not perfect: even in the best-preserved specimen only the posterior extremities are entire; they are rounded diagonally, the slope being apparently upwards and outwards. What remains of the most perfect plate measures upwards of seven inches in length, and three and a quarter wide. That which seems to be the external margin is thicker than the inner or opposite margin; and here the surface-sculpture, which is like that of the other bones, is strongest.

The central plate, which in Labyrinthodonts is usually rhomboidal, is peculiar in form: the two lateral angles are much produced, forming broad rounded lobes or wings (hence the generic appellation); their anterior margins have a sigmoidal curve extending to the anterior angle: the posterior margin is almost straight, but is a little produced in the centre, where there is a broad flat process extending backwards; this, however, is not perfect in either specimen. Here the plate is thickest, and on the surface there is a strong sinuous ridge which extends transversely from side to side, just a little in advance of the posterior margin. When the lateral plates are in their proper position, their posterior extremities would, no doubt, rest against this ridge, the anterior extremities converging forwards. The central plate is upwards of four inches long and six and three-quarters wide. The surface is not sculptured in the usual manner, and must be almost entirely overlapped by the lateral plates.

The other set of sternal plates is very imperfect; the characters, however, of the central plate are well developed; and it fortunately happens that while the right lobe of this plate, in the former specimen, is imperfect, the right lobe of this is quite entire, the other one being injured; so that, by the aid of the two specimens, the form can be perfectly restored.

The two vertebræ with the neural arches complete are in a very good state of preservation; the centrum is quite perfect in one, and almost perfect in the other; and between the two all the processes can be determined more or less completely. They were found at Newsham, but at different times. These very interesting relics closely resemble the figure of the vertebra of *Anthracosaurus* given by Prof. Huxley in the 'Journal of the Geological Society' (1863, vol. xix. p. 63). Our specimens, however, are larger, the neural arch differs a little in form, and there is a very minute notochordal foramen.

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* Palæontology, p. 179.

The body or centrum is biconcave, and appears to be considerably flattened lengthwise. The margins of the articular surfaces are reflected, so that in section the faces of the body would present a sigmoid curve from the centre to the margin. The height is a little more than the breadth, and the circumference at the sides and below is well rounded, though there is here and there a tendency to angularity; but whether this arises from original conformation or from accidental and unequal reflection of the margin, cannot be determined. The upper margin of the anterior face is produced a little in the centre, forming a rounded elevation immediately below the neural arch, and is angulated at the flanks. The same region in the posterior face presents a shallow concavity, exactly similar to that represented in Prof. Huxley's figure referred to. The sides of the body are somewhat concave, and transversely wrinkled or coarsely striated. The minute notochordal foramen, which is only large enough to admit a stout knitting-needle, is difficult to determine, though there can be no doubt of its existence.

The neural arch is comparatively small; it is oval, the long axis being perpendicular; the lips of the arch are produced a little in front; behind they do not appear to be so. The walls of the arch are very stout, and pass upwards to form a long high spinous process, which is nearly as high as the centrum, and is thin, being much compressed laterally.

The anterior zygapophyses are large; their articular surfaces are hollow and elongated transversely; their inner borders are confluent. The posterior pair are much distorted; but they appear to form wide, transverse articular surfaces, the faces of which look downwards.

The transverse processes are perfect in neither vertebra, though in one of them the extremities only are lost; they are broad and much compressed from front to back, and originate apparently in the sides of the neural arch and the upper surface of the centrum. They project almost horizontally; but so much of their extremities is wanting that there is no distinct evidence that they are divisible into an upper and a lower portion, corresponding to the head and tubercle of the rib. The upper portion, however, is thicker than the lower.

The measurements of the larger vertebræ are as follows:—

	inch.
Height of the body of the vertebra	1·9
Transverse diameter	1·8
Length	0·8
Height of neural arch	0·4
Height of spinous process	1·7
Length of ditto	1·0
Thickness of ditto	0·2
Width of transverse process	0·7
Thickness of ditto	0·3

Several other well-ossified vertebral centra have occurred at Newsham; they have all, however, lost the neural arch and most of the processes. Some, having a minute notochord, probably belong to *Pteroplax*; and two in particular, one of which is an inch and a half high, and about the same wide, agree perfectly well in form with the two above described. These have on the upper surface two peculiar, wide, arched, transverse, sessile processes or lobes, with the anterior faces a little hollowed. There can be no doubt that these belong to this Labyrinthodont, and are probably caudal vertebræ.

There are three or four other vertebræ, quite as large as the above, with a notochord nearly half an inch wide, and the remains of lateral processes. These may probably belong to fishes; but we know of no fish in our coal-shales to which they can be assigned.

The four or five ribs that have turned up at Newsham are not well preserved: two are lying in contact with one of the cranial shields, one above, the other below it; but in both instances the extremities are either lost or much injured. The largest is five and a half inches from end to end, and four-eighths of an inch broad; it is well and regularly arched, and appears to be a little flattened; a wide groove extends along the surface; and one of the extremities, which is crushed flat, exhibits distinct traces of a tuberculum and capitulum, the latter projecting quite four-eighths of an inch beyond the former, and continues the concavity of the inner margin of the rib. The tuberculum is reflected a little, so as to interrupt the convexity of the opposite margin. In short, this rib, as far as can be determined, agrees very closely with that of *Anthracosaurus* as figured and described by Prof. Huxley (*loc. cit.* p. 63). In another specimen the proximal extremity is better preserved; and in it the head and tubercle are quite in accordance with the above description.

Another rib, which probably belongs to this or to some other equally large Labyrinthodont, differs considerably from those just described. It is not quite four inches long, and near to the proximal end it is upwards of half an inch wide; the sides are flattened from before backwards, and exhibit a wide shallow groove from one end to the other. The tuberculum is scarcely distinguishable from the capitulum, except by its projecting boldly outward from the convex margin of the rib; its articular surface is continuous with that of the capitulum, forming with it a wide diagonal termination. Thence the rib tapers rather rapidly to the distal extremity, which is a little recurved.

Two or three limb-bones have likewise been found, which, from their size, probably belonged to this species. One of these, apparently a femur, is an inch and a half in length and five-eighths of an inch wide at the middle of the shaft, which is much compressed from front to back, and is a little arched in the same direction; there is a longitudinal depression extending from end to end. The extremities are much expanded, and they both appear to have double articular surfaces; that which is assumed to be the distal extremity is more expanded on one side than on the other.

From the shortness of this bone it would seem that the limbs of this animal were but feebly developed in comparison with the size of the body.

In concluding this description of the remains of this fine large Labyrinthodont reptile, a few words may be desirable on its relationship with the generic forms previously known. It has been already stated that it is closely allied to *Loxomma*, with which it agrees in having large and probably oblique eyes, placed near together and in a backward position. It agrees pretty well, too, with it in the general form of that assemblage of bones which we have called the cranial shield, though the curves are more flowing. But the parietals differ considerably in shape: in *Loxomma* they appear to be simply elongated, and scarcely, if at all, enlarged behind*; while in *Pteroplax* they are much enlarged posteriorly, and the frontals seem to be more produced. The sternal plates likewise differ from those of Prof. Huxley's genus, in which the lateral ones are quite short; but in *Pteroplax* they are much elongated, agreeing in this respect with *Archegosaurus*; and the central plate in *Loxomma* is devoid of the remarkable lateral lobes which characterize that of our genus.

We have also seen that this new reptile resembles to some extent *Dasyceps*, particularly in the two occipital horns; but the small eyes, backward position of the parietal foramen and external nostrils, and the difference in the form of the cranial bones, as well as the smallness and different character of the teeth of that genus, sufficiently distinguish it from *Pteroplax.*

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* Proc. Geol. Soc. vol. xviii. p. 292, pl. 11.

This new genus is also related to *Anthracosaurus*, as is apparent by the similarity of the vertebræ, the only difference of importance being that in this new Labyrinthodont there is a minute notochord, while the centrum of *Anthracosaurus* is completely ossified, and the neural arch of the former is oval instead of being triangular as it is in the latter. The occipital region, also, in the two forms is very different. And, the teeth disagree both in form and minute structure; indeed, the strongly compressed crown, with its wide cutting-edges, seems very characteristic in *Pteroplax cornuta.*

When the tooth is seen in transverse section, converging spaces are observed dividing the internal vertical folds or plicæ of dentine; these spaces are widest towards the periphery of the tooth, and are nearly all lost before they reach the pulp-cavity, the plicæ having coalesced at their internal extremities*. The plicæ are much undulated or lobulated, and have, extending through the centre in a radial direction, a double line of granular matter, divided by a thin, clear, homogeneous substance. This compound line takes an undulatory or zigzag course, and sends a simple process from each angle into the lateral lobes or undulations. The two granular lines are continuous with a similar line that follows the sinuosities of the peripheral dentine; and the clear layer between these granular lines appears to be continuous with the clear coating of the tooth, which would seem to be composed of cement, the enamel probably not extending to the base of the tooth. The Labyrinthodont structure of the tooth would therefore appear to be formed by the vertical infolding or plication of the peripheral wall of dentine and its external coating. It is evident, then, that the minute structure of the tooth of *Pteroplax* differs considerably from that of *Anthracosaurus*, in which, according to Prof. Huxley, the radiating plicæ are not formed in this way.

Ophiderpeton nanum, n. sp.

A single individual of a curious serpent-like Labyrinthodont, which apparently belongs to this genus, has been found at Newsham. It is not, however, in a good state of preservation, though the characters are sufficiently distinct to permit of the determination of its specific and generic relations. From the head to the caudal extremity, which appears imperfect, it is five and a half inches long, allowing for the sinuosities; as it lies it is about an inch shorter. The head is so much crushed that none of its characters can be determined. In its disturbed state, however, it is three-tenths of an inch long, and nearly two-tenths broad. Thirty-three vertebræ can be counted in a pretty continuous series extending from the head; they may, however, be estimated at forty. They do not appear to vary much in size; the largest are one-tenth of an inch long, and they are decidedly hourglass-shaped. The processes cannot be determined, though it is evident enough that the spinous process is not much elevated and that it is shorter than the centrum.

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* Since the above was in print we have examined other sections of the tooth, and find that the radial spaces dividing the plicæ of dentine are occasionally continuous with the pulp-cavity; it would therefore seem that in the minute structure the tooth differs less from that of *Anthracosaurus* than we supposed.

Numerous rather long, delicate, slightly curved ribs are scattered along the sides, from the head almost to the caudal extremity. The proximal end is bifid, the capitulum being longer than the tuberculum. The ventral shield is distinctly displayed; it extends from about half an inch behind the head almost to the other extremity of the body, in the form of a broad band, and is composed of very numerous, delicate, slightly curved, much elongated scales, with the extremities pointed. They are arranged transversely; and the ends of the parallel rows overlap each other laterally.

The extreme delicacy of these scutes, which are almost filamentous, distinguishes this species from *O. Brownriggii*, described by Prof. Huxley*. Its diminutive size is also characteristic. No trace of sternal plates or of anterior and posterior limbs are observable.

Reptile, species undetermined.

A single specimen of the central sternal plate of a second large Labyrinthodont was obtained at Newsham some time ago. It is nearly five inches long and about three and a quarter wide, and is pretty regularly lozenge-shaped, with the posterior angle produced, forming a wide, depressed, tapering process half an inch broad at the termination, which is truncate. The sides thence to the lateral angles are a little concave, and from the lateral angles to the anterior extremity (which is not much produced) are slightly convex; the anterior slopes are much shorter than the posterior ones. The surface is very rugose, with the usual Labyrinthodont structure, which, however, is not so sharply defined as it is in *Pteroplax*. The depressions and ridges have a radial disposition; the plate is about one-eighth of an inch thick, but diminishes in substance towards the margins.

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* Trans. Royal Irish Academy, vol. xxiv. p. 351, Science (1867).

In this interesting fossil we have evidence of the presence of another large Labyrinthodont in the Northumberland coal-field, which, judging from the measurements of the plate, cannot be less than the large species previously described. And if we look to the form of the plate and the character of the surface-ornament, it would seem probable that it belonged to a reptile not only specifically but likewise generically distinct from *Pteroplax cornuta.*

Two or three other different kinds of small sternal plates have likewise been found; but particular allusion will be made only to one species, which appears to be the best characterized. The others must be left for further elucidation.

Of this species there is a set of three plates lying in juxtaposition, apparently not very much disturbed; two are very nearly perfect, the third is partially destroyed. They are rounded and somewhat elongated, particularly one, which is probably a lateral plate; it is upwards of half an inch long.

In form and size these plates resemble those of *Keraterpeton*, and in structure they are almost identical. These specimens, as well as those figured of that genus by Prof. Huxley in the memoir before quoted, appear to have lost the external surface, and the bone-fibres beneath are exposed to view, radiating and anastomosing in a very regular manner from the centre of ossification, which is a little elevated. The appearance is very peculiar, and not a little resembles that of some specimens of *Synocladia* from the Magnesian Limestone. In the species before us the bony reticulation is not quite so fine as it is in *K. Galvani.*

[To be continued.]

XXXVI.—*Remarks on the Names applied to the British* Hemiptera Heteroptera. By J. W. Douglas and John Scott.

Under the above heading (*antè*, p. 94) Mr. Pascoe has very fairly criticised the nomenclature adopted in certain cases by hemipterologists, with a special reference to us; and we now claim to say a few words in reply.

The criticism falls chiefly under two heads:—

1. "The application of the generic names of the older authors to obscure, sometimes extra-European species, instead of to the larger number of better-known species which those authors must have had most prominently before them, thus rendering the use of new names necessary." As an example, is taken "the